## REMARKS

Support for claims 12-17 can be found throughout the specification, e.g., Page 5, lines 12-30; Page 7, lines 12-26; and Page 9, lines 18-31. Support for the recited hybridization conditions can be found in the specification, e.g., on Page 10, lines 5-10.

The title has been corrected.

**Rejection under § 101**

The claimed polynucleotides and polypeptides can be used as markers for heart tissue. This is clearly described in the specification. For instance, Example 8 (on Page 33 of the specification) discloses the highly specific expression of ICSR-1 in cardiac tissues. See, Fig 1A. Moreover, the gene is expressed at very high levels in ventricle tissue, but substantially absent from auricle tissue. Consequently, it can be used as a unique and tissue-specific marker for ventricle tissues. See, also, Page 15, lines 23-27.

Tissue-specificity was published by the Patent Office as sufficient to meet the statutory requirements to get a patent. Example 12 of the *Revised Interim Utility Guidelines Training Materials* is of a marker that is specific for a cancer – which is a type of tissue specificity. There is no reason why tissue specificity of normal tissue (e.g., for cardiac tissues) would not analogously satisfy the utility requirements.

Moreover, Example 6 of the *Synopsis of Application of Written Description Guidelines* provides an example of a claim to a polypeptide that is useful because of its tissue specificity, as a marker for normal glial tissues, i.e., "glial specific G-coupled protein receptor". See, Pages 28-29 of the Guidelines. The presently claimed polynucleotides and polypeptides have the same type of utility, and therefore are in conformance with the PTO requirements. Thus, it is unnecessary at this point in time to address the objections raised to the GPCR utility, since the tissue utility is specific, substantial, and credible.

To maintain the rejection under these circumstances would be contrary to the Patent Office's own published standards.

**Rejection under 35 USC §112, first paragraph**

The specification coupled with a skilled worker's knowledge provides adequate guidance to make and use the invention without undue experimentation, e.g., to determine polynucleotides and polypeptides within the scope of the claims. "To be enabling, the specification of the patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" Genentech Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting In re Wright, 999 F.2d 1557, 1561 (Fed. Cir. 1993)).

The present application provides a polynucleotide sequence and methods of obtaining other polynucleotide sequences. See, e.g., Page 8, lines 25-Page 11, line 5. In particular, methods of hybridization can be used to isolate sequences which hybridize under stringency conditions to the sequence set forth in SEQ ID NO:1. See, e.g. Page 10, lines 1-14. In view of this disclosure and the mature state of the art, it is evident that the skilled worker at the time the application was filed could routinely determine other polynucleotides and polypeptides encoded thereby which fall within the scope of the claims. Moreover, they could be tested for activity and tissue-specific activity as described on Pages 30-33 of the specification. It would be completely predictable that such molecules could be isolated using these and other conventional techniques.

Furthermore, Applicant has amended the claims to recite specific hybridization conditions. Support for this amendment can be found in specification, e.g., Page 10, lines 5-10. This claim type has been determined by the Patent Office to meet the requirements of §112, first paragraph. See, Example 9 of the *Written Description Guidelines*.

The discussion beginning on Page 8 of the Office action alleging that it would require undue experimentation to determine "which of the myriad of variant nucleic acids encode polypeptides which will retain the characteristics of ICSR-1" is misplaced. For example, the

presence of inoperative embodiments within the scope of a claim does not necessarily render a claim non-enabled. The standard is whether a skilled person could determine which embodiments that were conceived, but not yet made, would be inoperative or operative with expenditure of no more effort than is normally required in the art. Atlas Powder Co. v. E.I. du Pont de Nemours & Co., 750 F.2d 1569, 1577, 224 USPQ 409, 414 (Fed. Cir. 1984); MPEP 2164.08(b). The specification provides clear guidance on how to isolate polynucleotides and polypeptides that fall within the scope of the claims.

**Rejection under 35 USC §112, second paragraph**

Claim 4 has been amended in accordance with the examiner's suggestion.

**Rejection under 35 USC §102**

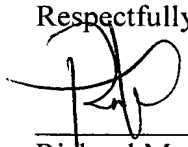
The claims have been amended to state that the fragments are "specific fragments" to indicate that the sequences are present only in the recited sequences. See, e.g., Specification, Page 16, lines 8-14; Page 23, lines 32-36; Page 25, lines 6-8; Page 33, line 6. U.S. Pat. No. 5,639,597 does not disclose specific fragments of the sequences recited in the claims.

Sequence comparisons A nor B were not provided in the Office action. See, Office action, Page 13. As a consequence, it could not be determined whether U.S. Pat. No. 5,759,804 discloses the stretch of 15 nucleotides alleged on Page 13 of the Office action. Nonetheless, even if this allegation is correct, the cited patent does not disclose fragments comprising more than 15 nucleotides. See, e.g., Claims 12-16.

In view of the above remarks, favorable reconsideration is courteously requested. If there are any remaining issues which could be expedited by a telephone conference, the Examiner is courteously invited to telephone counsel at the number indicated below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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